National Aeronautics and Space Administration

SPACE LAUNCH SYSTEM

NOVEMBER 2019

FOUR ON THE CORE!

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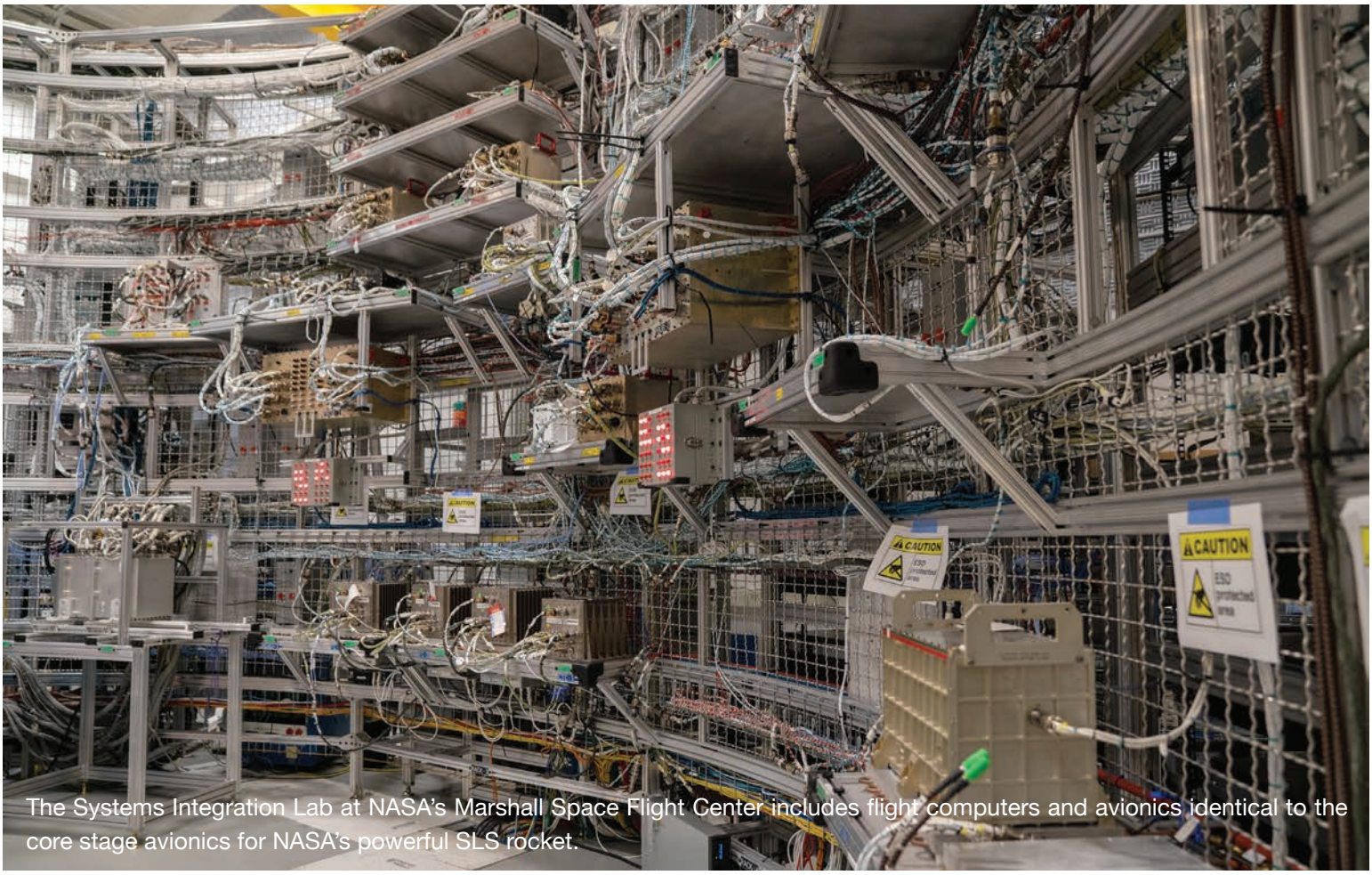
ALL FOUR ENGINES ATTACHED TO THE SLS CORE STAGE FOR ARTEMIS I MISSION

All four RS-25 engines were structurally mated to the core stage for NASA's SLS rocket for Artemis I, the first mission of SLS and NASA's Orion spacecraft. To complete assembly of the rocket stage, engineers and technicians are now integrating the propulsion and electrical systems within the structure. After integration is complete, crews will conduct an integrated functional test of flight computers, avionics and electrical systems that run throughout the 212-foot-tall core stage in preparation for its completion later this year.

Read the full story: **go.nasa.gov/2qSotyD**

Teams mated the last of four RS-25 engines to the SLS core stage Nov. 6.

NASA CERTIFIES SLS ROCKET LABORATORY TO TEST FLIGHT SOFTWARE FOR ARTEMIS I



The Systems Integration Lab at NASA's Marshall Space Flight Center includes flight computers and avionics identical to the core stage avionics for NASA's powerful SLS rocket.

To launch the Artemis I Moon mission, NASA's powerful SLS rocket must go from 0 to more than 17,000 miles per hour. The rocket's software and avionics systems control all that power to ensure the rocket and NASA's Orion spacecraft make it to space. The SLS avionics and flight software are a step closer to the Artemis I mission since NASA certified the Systems Integration Laboratory for final integrated avionics and flight software testing Nov. 14.

Read the full story: **go.nasa.gov/2XYlLnt**

ARTEMIS II ROCKET PROPELLANT TANKS PREPPED FOR NEXT PHASE OF MANUFACTURING

While NASA teams complete work on the core stage for the SLS Artemis I mission, both of the propellant tanks that will fly the SLS rocket's Artemis II mission are moving to the next phase of manufacturing at NASA's Michoud Assembly Facility in New Orleans. Artemis II is to be the first crewed mission with SLS and NASA's Orion spacecraft. Teams at Michoud completed welding on each of the giant tanks earlier this fall.

Read the full story: **go.nasa.gov/37FZH5w**

The liquid hydrogen tank for the SLS Artemis II mission is being prepared for proof testing.

The liquid oxygen tank for the SLS Artemis II mission has completed proof testing and is being readied for non-destructive evaluation.

WHAT'S NEW IN SLS SOCIAL MEDIA

ROCKET SCIENCE IN 60 SECONDS

What is the SLS Exploration Upper Stage? In this *Rocket Science in 60 Seconds* video, Kent Chojnacki, associate manager for the SLS Stages Office, explains how the Exploration Upper Stage (EUS) will allow the SLS rocket in its Block 1B configuration to send more cargo to the Moon on Artemis missions and later on to Mars. Watch the video here: **youtu.be/f4iNB6GdoCE**

CORE STAGE COMES TOGETHER

Engineers and technicians at NASA's Michoud Assembly Facility in New Orleans have attached all four RS-25 engines to the core stage for the SLS rocket that will help power the Artemis I mission. Watch the video: **youtu.be/7yK8E7TjC9U**

LEARNING ABOUT NASA CAREERS

Students talk to an SLS outreach specialist while gathering information about the rocket during NASA Days at the University of North Carolina in Chapel Hill Nov. 5-7. Astronaut Zena Cardman, a UNC graduate, and NASA Deputy Administrator Jim Morhard participated in discussions during the event. Sessions included topics ranging from biological technologies in space to opportunities to work with NASA.

NASA TEAMS CONDUCT CRUCIAL SLS BOOSTER STACKING EXERCISE

Teams from NASA's Exploration Ground Systems and SLS practice booster stacking with pathfinders inside Kennedy Space Center's Vehicle Assembly Building. The goal of the training, which took place Nov. 18 through Nov. 20, was to practice booster segment mate. Using overhead cranes and booster handling activities, the teams focused on procedures for mating a center segment onto a cylinder that simulated another segment. Read the full story: **go.nasa.gov/2XUf9X2**

SPACEFLIGHT PARTNERS:
Lockheed Martin

NUMBER OF EMPLOYEES: *230 supporting SLS*

LOCATION: *New Orleans, LA*

WHAT THEY DO FOR SLS:
Lockheed Martin's New Orleans office manages the team at Marshall Space Flight Center that oversees tooling design, friction stir weld development and onsite production for the launch vehicle stage adapter.

FOLLOW THE PROGRESS OF NASA'S NEW LAUNCH VEHICLE FOR DEEP SPACE:

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